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GUIDE TO *AGAVE*, *CINNAMOMUM*, *CORYMBIA*, *EUCALYPTUS*, *PANDANUS*, AND *SANSEVIERIA* IN THE FLORA OF FLORIDA

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ABSTRACT

Several species-rich groups of non-native taxa occur in Florida and can be difficult to identify. This synopsis provides identification keys and brief discussions of the naturalized species of six genera in Florida: *Agave*, *Cinnamomum*, *Corymbia*, *Eucalyptus*, *Pandanus*, and *Sansevieria*. Of the genera treated here, only one taxon is presumed to be a pre-Columbian native, *Agave decipiens*, and all others are considered exotic. *Agave neglecta* is treated as a synonym of *A. weberi*. *Cinnamomum burmannii*, *Pandanus odorifer*, and *Sansevieria trifasciata* are here reported for the first time in the flora of Florida. Lectotypes are designated for *A. decipiens* and *A. sisalana* var. *armata*. Many of the genera possess a convoluted taxonomy and are in need of a modern taxonomic revision. Thus, for the most part, heterotypic synonyms are not listed except for two synonyms discussed in *Agave*. All cited specimens examined are from Florida. All photos are by the author unless indicated otherwise.

KEY WORDS: *Agave*, *Cinnamomum*, *Corymbia*, *Eucalyptus*, *Pandanus*, *Sansevieria*

AGAVE L., Sp. Pl. 1: 323. 1753. **TYPE**: *Agave americana* L.

The genus *Agave* contains ca. 200 species endemic to the Americas with its center of diversity in Mexico (Gentry 1982). Various species of *Agave* are used (e.g. Gentry 1982; Colunga-GarcíaMarín and May-Pat 1993) as a food (cabezas), sweetener (agave nectar), beverage (agua miel, pulque, tequila), fiber (sisal, henequen), medicine (steroidal sapogenins), soap (saponins), and landscape plant. The sap of the tequila agave, *A. angustifolia* Haw. subsp. *tequilana* (F.A.C. Weber) Valenz.-Zap. & Nabhan, and the popular ornamental *A. americana* can cause contact dermatitis due to calcium oxalate crystals (Salinas et al. 2001) which are likely present in other taxa. The use of *Agave* as a food in Mexico has been documented as early as 7000 B.C. (Callen 1965). There are accounts of *Agave* in cultivation in Europe as early as the 1500s (Drummond & Prain 1906).

After flowering, the leaves of *Agave* wither and the rosette eventually dies. Only the above-ground stem of *Agave* is strictly semelparous, as the plants are also surculose, sending out underground shoots. Clonal reproduction by the formation of small plantlets, or bulbils, in the inflorescence is also common. Several hundred to thousands of bulbils may be produced from an inflorescence (Szarek et al. 1996). Vegetative reproduction is the only means of spreading for some naturalized taxa of *Agave* in Florida.

Because plant parts of *Agave* are typically bulky and succulent, herbarium specimens are often prepared from smaller pieces and fragments which are inadequate for identification. For identification it is necessary to have full-length mature leaves and ideally a photograph of the mature plant as well. The largest plants (and largest leaves) present should be sampled. The abaxial portion of thick, succulent leaves should be gutted leaving the upper epidermis and leaf margins intact (Gentry 1982) to help maintain their shape during drying and pressing. If leaves are not sufficiently

gutted they may split and become misshapen upon drying. Young plants, bulbils, partial leaves, and inflorescence bracts are extremely difficult to identify to species and should only be collected if accompanying specimens with mature leaves are included.

Two subgenera of *Agave* can be recognized. All species in the Florida flora belong in *A.* subg. *Agave*, characterized by paniculate, umbellate inflorescences. Spikelike inflorescences characterize *Agave* subg. *Littaea* (Tagl.) Baker.

KEY TO *AGAVE* IN FLORIDA

Note: Spines are delimited by the darkened, hardened, and sclerified tissue that contrasts with the greener and softer leaf tissue.

1. Terminal spine decurrent (sclerified spine tissue extending down margins of leaf)

    2. Leaves with stout marginal spines throughout ..... **Agave americana**
    2. Leaves entire or with marginal prickles only at the base of the leaves ..... **Agave weberi**

1. Terminal spine abrupt, truncate

    3. Most or all leaves recurved ..... **Agave desmettiana**
    3. Most leaves, and especially young ones, straight, erect

        4. Leaves entire or with occasional sporadic spines or marginal spines spines weak, usually ≤ 3 mm long and < 4 mm wide ..... **Agave sisalana**
        4. Leaves with marginal spines throughout; marginal spines fairly robust, usually > 3 mm long, to 8 mm wide

            5. Leaves virid, bright green and not glaucous ..... **Agave decipiens**
            5. Leaves variegated or blue-green and glaucous..... **Agave angustifolia**

Agave americana L., Sp. Pl. 1: 323. 1753. *Aloe americana* (L.) Crantz, Inst. Rei Herb. 1: 466. 1766.
LECTOTYPE (designated by Howard 1979): *Herb. Linnaeus, 443.1* (LINN). Figure 1.

Agave americana is the only naturalized *Agave* in Florida not known to produce bulbils in the inflorescence, although the species still vegetatively spreads by suckers (surculose). Although Small (1933) mentioned that *A. americana* is found in hammocks and pinelands, the known specimens demonstrate this species spreading only locally from cultivation. *Agave americana* subsp. *protoamericana* Gentry represents the wild taxon from which the cultivated form *A. americana* subsp. *americana* putatively arose (Gentry 1982; Reveal & Hodgson 2002). Two varieties of *A. americana* subsp. *americana* were recognized by Reveal and Hodgson (2002). Both are commonly cultivated and may spread locally. One variety is *A. americana* var. *americana*, which includes a cultivar with reflexed, variegated leaves (Fig. 1) and may produce capsules. The other variety is *A. americana* var. *expansa* (Jacobi) Gentry, which has erect, blue-gray leaves and has not been observed to produce capsules (Fig. 1).

Specimens examined: **Charlotte Co.**: *A.R. Franck & B. Upcavage 1859* (USF). **Sarasota Co.**: *A.R. Franck 1868* (FLAS, USF).

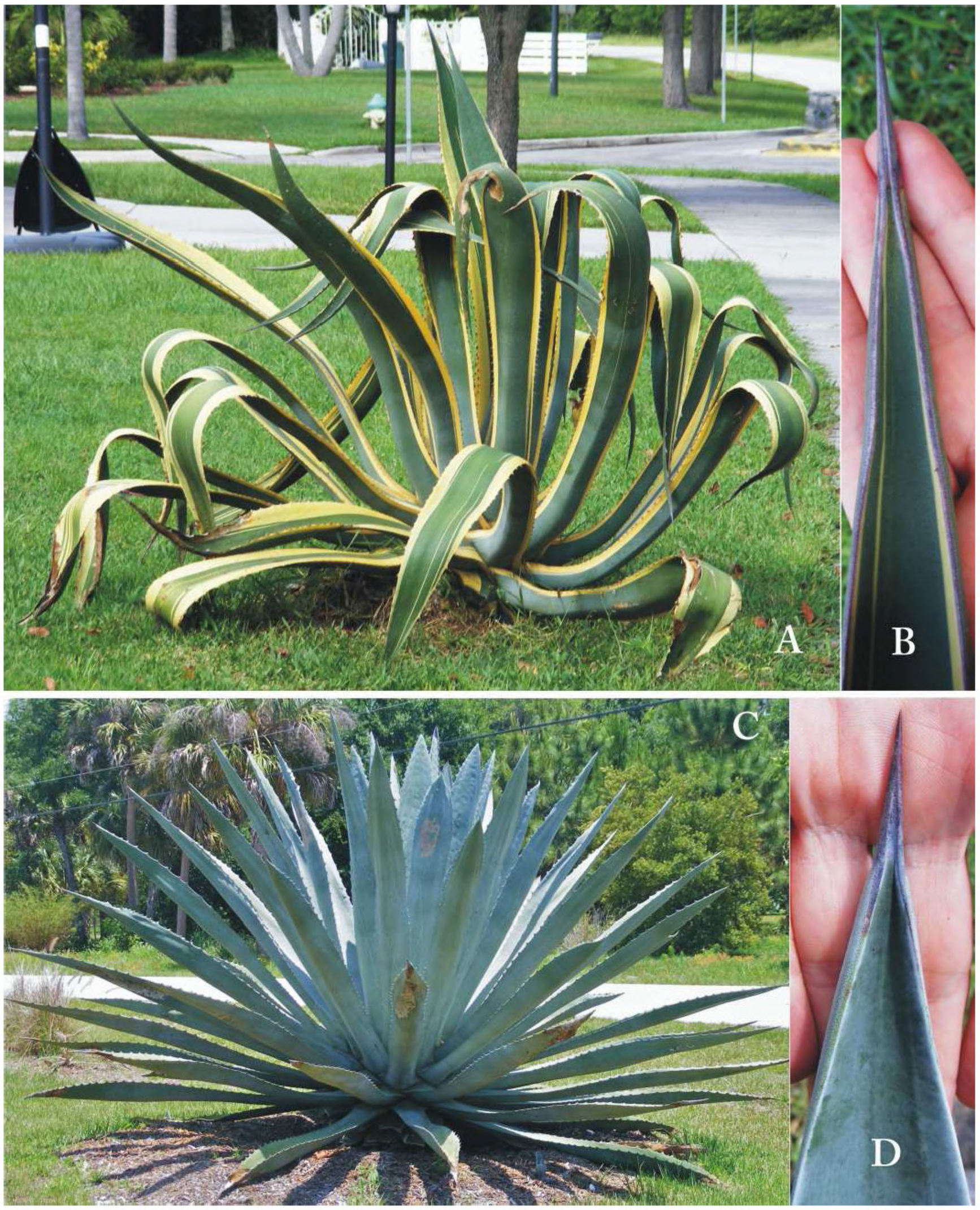

Figure 1. *Agave americana*. A,C – habit; B,D – decurrent terminal leaf spine. A,B – *A. americana* var. *americana*, Sarasota Co., Florida; C,D – *A. americana* var. *expansa*, Charlotte Co., Florida.

Agave angustifolia Haw., Syn. Pl. Succ. 72. 1812. **NEOTYPE** (designated by García-Mendoza & Chiang 2003): **MEXICO. Oaxaca**. Distr. Huajuapan de León, Mun. San Andrés, 3 km N of Tutla, 29 Jun 1992, *A. García-Mendoza & F. Palma 5654* (MEXU). Figures 2–3.

Agave angustifolia is a highly variable species from which many other taxa are likely derived, such as *A. amaniensis* Trel. & W. Nowell, *A. angustifolia* subsp. *tequilana*, *A. decipiens*, *A. fourcroydes* Lem., and *A. sisalana*.

Figure 2. *Agave angustifolia.* A – fruits; B – inflorescence; C – flowers; D – terminal leaf spine. A,D - Sarasota Co., Florida (*Franck 1744*); B,C - Sarasota Co., Florida (*Franck 2261*).

Figure 3. *Agave angustifolia.* A – inflorescence; B – terminal leaf spine; C – flowers. A,B,C – Sarasota Co., Florida (*Franck 2263*).

The lectotype (perhaps actually a neotype) designated by Gentry has been discounted as incongruent with the protologue (García-Mendoza & Chiang 2003). *Agave angustifolia* was once erroneously synonymized with *A. vivipara* L. of the Leeward and Venezuelan islands (Hummelinck 1938; García-Mendoza & Chiang 2003), a different species with comparably short, wide, recurved leaves possibly related to *A. karatto* Mill. of the Lesser Antilles (Trelease 1913; Rogers 2000). Two forms of *Agave angustifolia* have been found naturalized in Florida. One is a common cultivar which

has variegated leaves and may produce both bulbils and capsules in the inflorescence (Fig. 2). Another form has glaucous-green leaves and was observed to produce bulbils only (Fig. 3).

Specimens examined. **Highlands Co.**: *W.S. Judd & D.W. Hall 5044* (FLAS). **Miami-Dade Co.**: *G.N. Avery 1581* (FLAS, FTG). **Sarasota Co.**: *A.R. Franck 1744*, *1748*, *1861*, *1862*, *2261* (USF); *A.R. Franck 1747*, *2263* (FLAS, USF).

Agave decipiens Baker, Bull. Misc. Inform. Kew 1892 (67–68): 183. 1892. **LECTOTYPE** (designated here): **USA. Florida**. Palm Beach Co.: Lake Worth, May 1892, *C.R. Dodge s.n.* (K). Fig. 4.

Agave decipiens is the only native *Agave* in Florida, usually found in coastal hammocks, "always most abundant in the wilds" (Dodge 1893, p. 29). This species seems to only slightly differ from *A. angustifolia* (Zona 2001). Although many species of *Agave* may produce a noticeable trunk under certain conditions, it is especially common and pronounced in *A. decipiens* (Fig. 4).

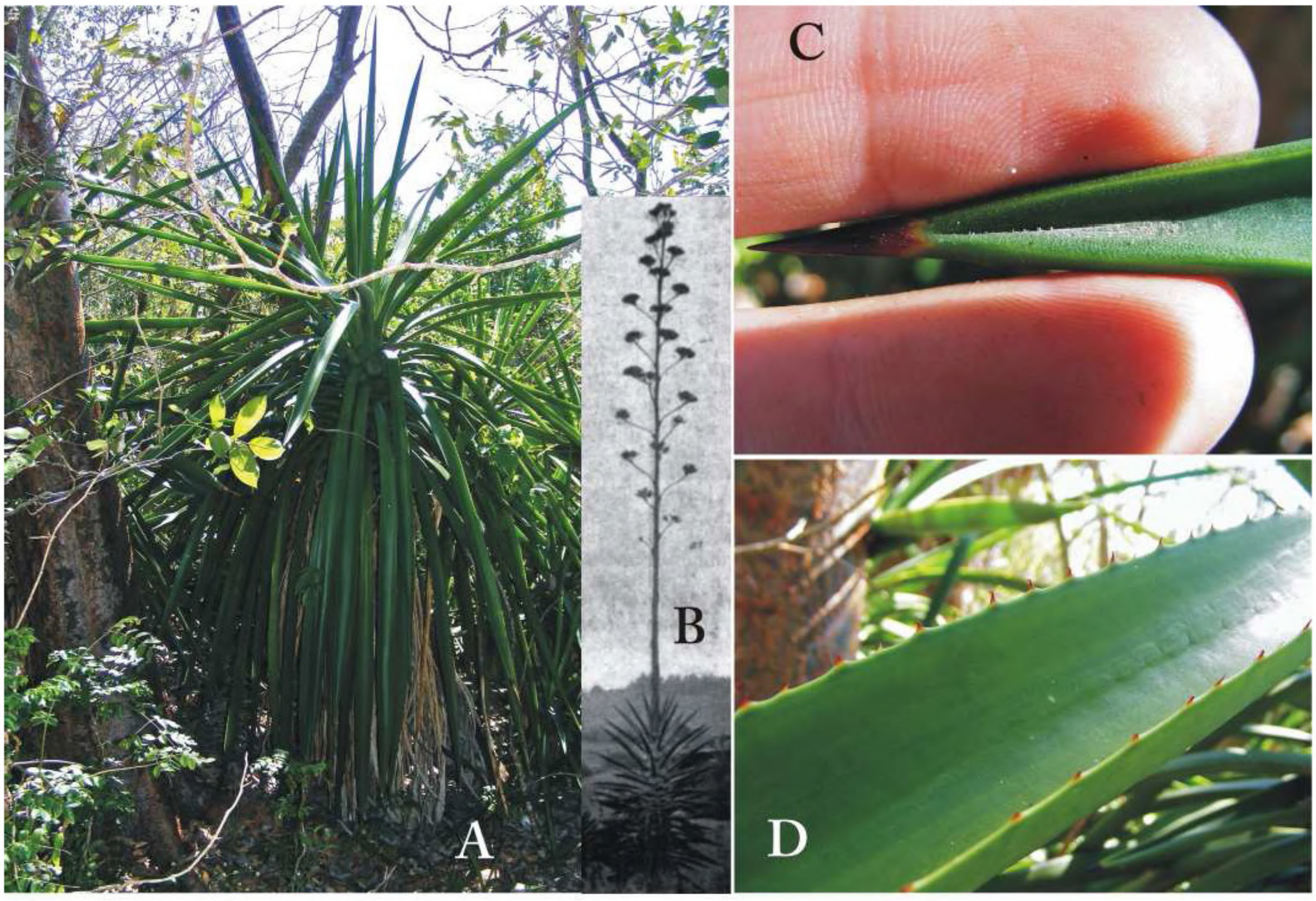

Figure 4. *Agave decipiens*. A – habit; B – inflorescence; C – terminal leaf spine; D – marginal leaf spines. A,C,D – Lee Co., Florida; B – Santa Barbara Co., California (Fig. 72, Berger 1915).

As noted by Zona (2001), Gentry (1982) indicated a later published illustration to be a lectotype, which would actually be a neotype. The protologue of *A. decipiens* indicates the study of several specimens ("these and other specimens") including some sent by Dodge from at least two locations, Lake Worth (Palm Beach Co.) and Biscayne Bay (Miami-Dade Co.). Thus there is no definitive holotype (cf. Zona 2001). Berger (1915) cited material from Dodge at K but only mentioned Biscayne Bay and did not indicate a type. Three collections were found at K which were dated before the protologue (Jul-Aug 1892). A two-sheet specimen consisting of a leaf and several

flowers sent to K by Dodge from Lake Worth (dated May 1892) bears an anonymous handwritten note reading "Type specimen". This two-sheet specimen of *A. decipiens* from Lake Worth is not known to have been declared as a type in any publication and is here designated as the lectotype. The other specimen at K from Dodge (received March 1892) was collected from Coconut Grove which lies on Biscayne Bay. The specimens at US from Dodge are dated either "1892" or "Feb 1892" and cite the location as "Southern Florida." The US specimens cannot be considered the same gathering nor isolectotypes. The other collection at K dated before the protologue was *Curtiss 2836*, received April 1883.

Specimens examined. **Charlotte Co.**: *S.W. Braem DP0078* (USF). **Collier Co.**: *E. Jensen & C. Olson DW0001* (USF), *A. Bishop DW0007* (USF), *O.K. Lakela 29446* (USF), *P.C. Standley 12812* (US). **Lee Co.**: *A. Bishop LK0050* (USF), *S. Todd 54* (USF), *B.F. Hansen & J. Hansen 5698* (USF), *A.R. Franck & S.W. Braem 2611*, *2612*, *2613*, *2614*, *2615*, *2617*, *2619* (USF), *S.W. Braem s.n.* (USF), *J. Beckner 1756* (FLAS), *W.C. Brumbach 6086* (FLAS), *T. Hunt s.n.* (FLAS). **Martin Co.**: *J. Popenoe 1152* (FTG). **Miami-Dade Co.**: *S. Zona 830*, *831* (FTG), *A.H. Curtiss 2836* (K, P), *C.R. Dodge s.n.* (K). **Monroe Co.**: *R.W. Long et al. 2715* (USF), *E.P. Killip 31696* (FLAS, K, P), *Dickson s.n.* (FTG), *J.K. Small 7367* (FLAS). **Sarasota Co.**: *O.K. Lakela & R.W. Long 27562* (USF), *O.K. Lakela & R.W. Long 28146* (FLAS, USF), *C.C. Coons s.n.* (FLAS).

Agave desmettiana Jacobi, Hamburger Garten-Blumenzeitung 22: 217, f. 32. 1866. **NEOTYPE** (designated by Gentry 1982): **MEXICO. Sinaloa**. Gusave, 8 Feb 1952, *H.S. Gentry 11569* (US; isoneotypes, DES, MEXU). Figure 5.

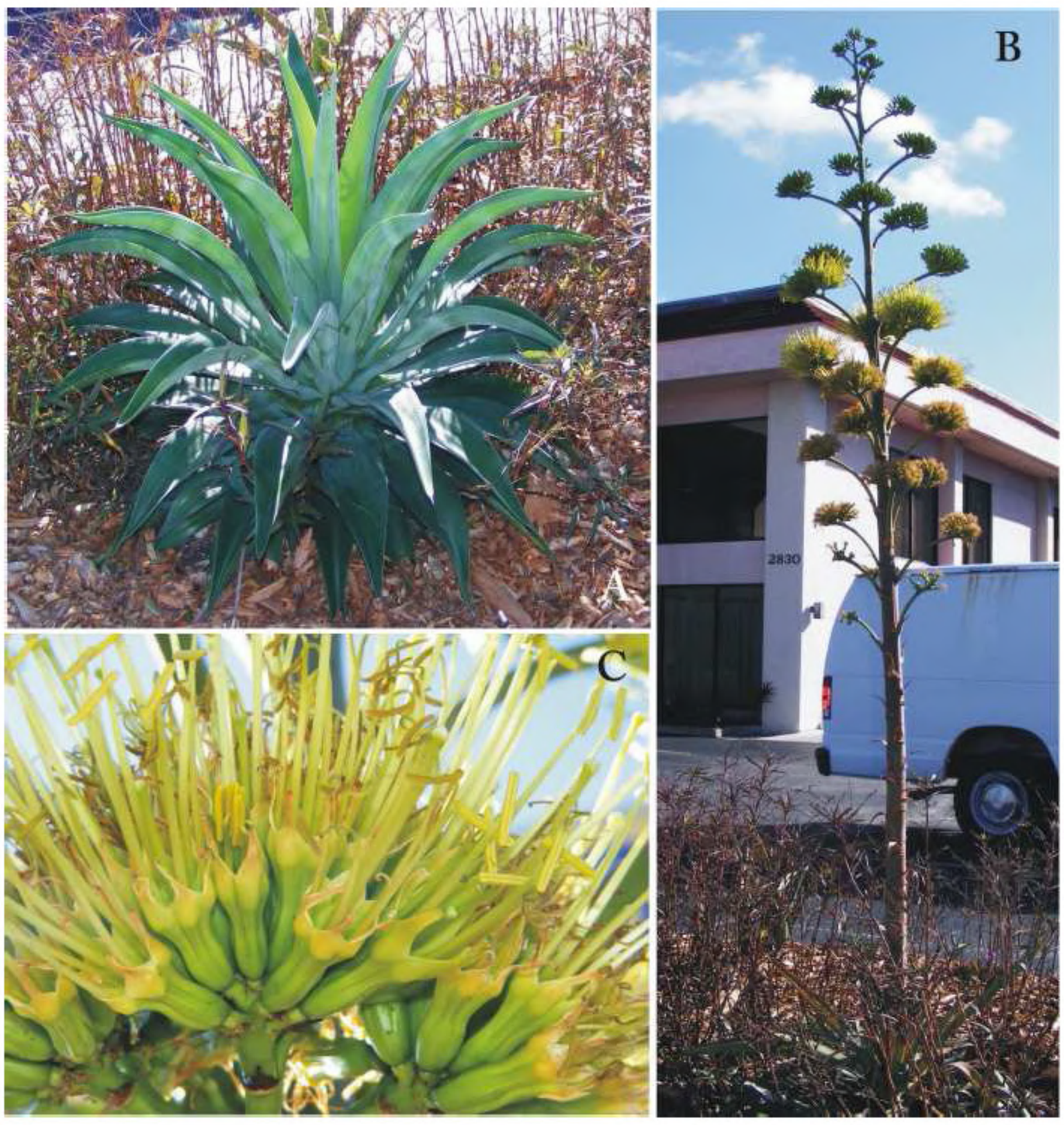

Figure 5. *Agave desmettiana*. A – habit; B – inflorescence; C – flowers. A,B,C – Sarasota Co., Florida.

Agave desmettiana is a diminutive species with relatively short leaves, a short inflorescence, and short suckers (Fig. 5). There are forms that may have marginal spines or entire margins.

Specimens examined: **Lee Co.**: *W.C. Brumbach 7798, 8459* (FLAS). **Sarasota Co.**: *A.R. Franck 1790* (USF).

Agave sisalana Perrine, Congr. Doc. (25th Congr.) 564: 87. 1838. *Agave rigida* Mill. var. *sisalana* (Perrine) Engelm., Trans. Acad. Sci. St. Louis 3: 316. 1875. **NEOTYPE** (designated by Gentry 1982): **MEXICO. Chiapas**. Ocosocoautla, cultivated as fence row and fiber plant, 22 Mar 1957, *H.S. Gentry 16434* (US; isoneotype, DES). Figure 6.

Agave sisalana Perrine var. *armata* Trel., Mem. Natl. Acad. Sci. 11: 49. 1913, **syn. nov.** **LECTOTYPE** (designated here): **JAMAICA. St. Andrew Par.**: Hope Gardens, May 1907, *W. Harris X* (MO, accession #2147690; also shown in plate 111, Trelease 1913).

Agave sisalana is a pentaploid (Doughty 1936) cultivated for its fiber. This species was introduced to Florida in the 1830s by Dr. Henry Perrine (Robinson 1942). Soon, thereafter, this species had spread throughout much of south Florida for use as a fiber and an ornamental (Dodge 1893). In 1892, 5000 plants were exported from Florida to India (Drummond & Prain 1906). Part of the advantage of using *A. sisalana* for fiber is that it often has entire leaves devoid of marginal spines. Occasionally, a leaf with a few marginal spines can be found on a rosette where all other leaves are entire. Plants with weak marginal spines throughout the margins of all leaves (*A. sisalana* var. *armata*) are frequently found and have been documented in Jamaica (Trelease 1913), Florida (Fig. 5), and Spain (Guillot Ortiz & van der Meer 2006). The bulbils of *A. sislana* often show weak spines (Pinkerton & Bock 1969).

Like *Agave sisalana*, *A. fourcroydes* is a pentaploid cultivar also used for its fiber (Doughty 1936). These two species can be difficult to distinguish. The traditional view is that *A. fourcroydes* has marginal spines and *A. sisalana* has entire leaves (Vidal 1925). However, this distinction is not entirely useful because of numerous examples of *A. sisalana* plants with marginal spines throughout all leaves of the plant. Furthermore, an entire-leaved form of *A. fourcroydes* (*A. fourcroydes* var. *espiculata* Dewey (1929)) has also been described.

Because *Agave sisalana* is usually regarded as having only entire leaves, plants with weak marginal spines in Florida have been identified as either *A. decipiens* or *A. fourcroydes*. The leaves of *A. decipiens* have larger marginal spines and appear pure green. The leaves of *A. sisalana* are often lightly glaucous-green.

It seems the only useful character for separating *Agave fourcroydes* and *A. sisalana* is the terminal spine. Leaves of *A. fourcroydes* have a rather stout terminal spine with an abrupt point whereas those of *A. sisalana* have a thinner terminal spine with a long-tapering point. It has also been suggested that *A. fourcroydes* has grayer leaves than *A. sisalana* (Trelease 1913), though several types of *A. fourcroydes* appear to have similarly green leaves (Colunga-GarcíaMarín et al. 1996; Colunga-GarcíaMarín & May Pat 1997; Colunga-GarcíaMarín et al. 1999).

It is questionable whether *Agave fourcroydes* and *A. sisalana* should be treated as species and it may be more appropriate to treat them as varieties or cultivars of *A. angustifolia*. All three species are able to hybridize and have similar geographic origins (Perrine 1838; Vidal 1925; Dewey 1931; Lock 1962). Several forms of *A. fourcroydes* have been morphologically characterized and distinguished from *A. angustifolia* (Colunga-GarcíaMarín et al. 1996; Colunga-GarcíaMarín & May Pat 1997; Colunga-GarcíaMarín et al. 1999; Piven et al. 2001; Robert et al. 2008).

Figure 6. *Agave sisalana*. A – habit (marginally-spined form on the left, entire-leaved form on the right); B – sucker inflorescence; C – normal inflorescence; D – marginally-spined leaves; E – base of inflorescence. A,D – Hillsborough Co., Florida (*Franck & Upcavage 2259*); B,C,E – Sarasota Co., Florida (*Franck 1746*).

Gentry (1982) allied *Agave sisalana* with *A. weberi* because both have only weak marginal spines. However, *A. weberi* appears to be unrelated with its decurrent terminal spine, wider leaves, and closely-spaced basal prickles. *Agave amaniensis*, a glaucous, diploid form has been separated from *A. sisalana* (Trelease & Nowell 1933). It seems probable that *A. amaniensis* is synonymous to or derived from *A. sisalana* as it was described from Tanzania where *A. sisalana* had been cultivated since 1893 (Lock 1962).

The marginally-spined *Agave sisalana* var. *armata* is here recognized as a synonym of *A. sisalana*. A leaf specimen of *A. sisalana* var. *armata* at MO is designated as the lectotype. A letter with an accompanying photograph from W. Harris (MO, accession #2147681) states that "entire and prickly forms" of *A. sisalana* were intermixed. At Egmont Key, Hillsborough Co. in Florida, a

similar situation was encountered, in which entire-leaved *A. sisalana* was intermixed with marginally-spined forms, without any other noticeable differences (Fig. 6).

The flower specimens of *Harris X* at MO (accessions #2147691, #2147692, #2147692, and #3377526), cannot be reliably confirmed to be from the same plant or gathering as the lectotype because one of the sheets (MO, accession #3377526) contains an illustration which states "flowers of the spine-less leaf *Agave rigida* var. *sisalana*". The flower specimens of *Harris X* at MO are excluded from the lectotype. Trelease (1913) also cited the specimen *Britton & Millspaugh 5936* for *A. sisalana* var. *armata*, which has been databased at MO (accession #2147672) but was unable to be located.

Although *Agave sisalana* appears to be exclusively bulbiferous without capsules, it is apparently possible to find capsules with viable seeds under certain conditions such as high elevation (900—1800 m), low night-time temperatures, and a cut-back inflorescence (Lock 1962). A photograph of the capsules and seeds was made by Trelease (1913). This species also has the ability to send up suckers that emerge to form short inflorescences without a rosette of leaves (Dodge 1893; Fig. 6).

Agave sisalana Perrine was sufficiently described with a diagnosis by Perrine to effect valid publication so the authorship citation *A. sisalana* Perrine ex Engelm. is unnecessary.

Specimens examined: **Brevard Co.**: *W.T. Gillis 6886* (FLAS, FTG), *P.L. Howell 917* (USF). **Collier Co.**: *O.K. Lakela et al. 28005* (USF), *O.K. Lakela 28529* (FSU, USF), *O.K. Lakela 29447* (USF), *B.F. Hansen & R.P. Wunderlin 11851* (FLAS, FTG, USF), *B.F. Hansen et al. 11836* (FLAS, FTG, USF). **Hillsborough Co.**: *R.P. Wunderlin et al. 5953* (USF), *A.R. Franck & B. Upcavage 2557, 2558, 2559, 2560, 2561, 2562* (USF), *R.W. Long et al. 2946* (USF), *E. Jensen & C. Olson EK0009, EK0010* (USF). **Lee Co.**: *S. Todd 76* (USF), *G.R. Cooley 2435* (USF), *W.C. Brumbach 9199* (NY, USF), *E. Jensen & C. Olson CC0139* (USF), *A.R. Franck & S.W. Braem 2603, 2618* (USF), *W.C. Brumbach 8459, 8954* (NY), *E. Jensen et al. MK0044* (USF), *A. Bishop & B.K. Holst CC0044* (USF), *A.R. Franck & S.W. Braem 2620* (USF), *S.W. Braem s.n.* (USF), *E. Gandy & B. Ochoa LK0102* (USF); *S. Brown s.n.* (FLAS). **Manatee Co.**: *E. West s.n.* (FLAS). **Martin Co.**: *J. Popenoe 1033* (FTG). **Miami-Dade Co.**: *B. Tan & N. Raymond TP59* (FLAS), *W.S. Judd 7087* (FLAS), *A.H. Curtiss 5614* (NY). **Monroe Co.**: *R.W. Long et al. 1860* (USF), *A.R. Franck 2507* (USF), *C.C. Parry s.n.* (MO), *A.H. Curtiss 5644* (FLAS, NY), *D.B. Ward & S.S. Ward 1185* (FLAS, FSU), *L. Garbarini s.n., 15 Nov 1967* (FTG), *I.A. Badia s.n.* (FTG), *B.C. Schmidt 48* (FTG), *Dickson s.n., 13 Jan 1952* (FTG). **Pinellas Co.**: *C. vanHoek & B. Fortner CI0243* (USF), *A. Schmidt et al. s.n.* (USF). **Sarasota Co.**: *E. Jensen & C. Olson OS0566* (USF), *A.R. Franck 1419, 1867* (USF), *A.R. Franck 1746* (FLAS, USF), *J. Beckner 1717* (FLAS).

Agave weberi F. Cels ex J. Poiss., Bull. Mus. Hist. Nat. (Paris) 7: 231. 1901. **NEOTYPE** (designated by Gentry 1982): **USA. Texas**. Webb Co.: between Catarina and Laredo along route 83, 4 Jun 1963, *H.S. Gentry et al. 20003* (US; isoneotypes, DES, MEXU). Figure 7.

Agave neglecta Small, Fl. S.E. U.S. 289. 1903, **syn. nov.** **LECTOTYPE** (designated by Gentry 1982): **USA. Florida.** Lake Co.: cultivated at Eustis [U.S. Subtropical Laboratory], Jul 1895, *H.J. Webber s.n.* (MO; isolectotypes, ASU, NY).

Agave neglecta, long considered an enigmatic endemic of Florida, is here synonymized with *A. weberi*. With the NY isolectotype of *A. neglecta* is a note from Gentry dated Feb 1980 stating "may be synonymous with *A. weberi* Cels." Gentry (1982) only marginally separated *A. neglecta* and *A. weberi* with subtle morphological differences. The protologue of *A. neglecta* describes leaves and capsules very similar to *A. weberi*, "blades glaucous . . . recurved at maturity . . . margins armed with

minute close-set teeth" (Small 1903). It seems *A. neglecta* was described due to the lack of knowledge of any other similar *Agave* as *A. weberi* was never mentioned by Small (1903, 1933).

Although Gentry (1982) separated *Agave neglecta* and *A. weberi*, the characters do not seem to hold up to scrutiny. The inflorescence height in the protologue is certainly an estimate, "13 m tall, panicle about 30 dm high" (Small 1903), later modified to "panicle 3 m long, scape three or four times as long" (Small 1933). Gentry (1982), whose description appears to have been supplemented by a photograph of a plant from Pass-a-Grille, Pinellas Co., distinguished *A. neglecta* with an inflorescence 8–10 m tall and that of *A. weberi* as 3–10 m tall but noted that both species had tall peduncles that often topple (Fig. 7). The flowers of the lectotype specimens of *A. neglecta* are very much withered and appear to have been collected at post-anthesis or at least were not pressed soon after collection. The withered lectotype flowers match the measurements of the protologue, "55 mm long" (Small 1903), but should be regarded as inappropriate measurements for freshly opened flowers. Gentry (1982) distinguished *A. weberi* as having longer flowers, "65–80 mm." The terminal spine of *A. neglecta* was described as 2.5 cm long (Small 1933; Gentry 1982) and that of *A. weberi* as 2.5–5 cm long. The terminal spine length of *A. neglecta* might only be based on two leaf collections dated before the protologue, that of the lectotype (MO) and perhaps *McCarty s.n.* (MO). It is doubtful these two leaves represent the maximal length of the terminal spine.

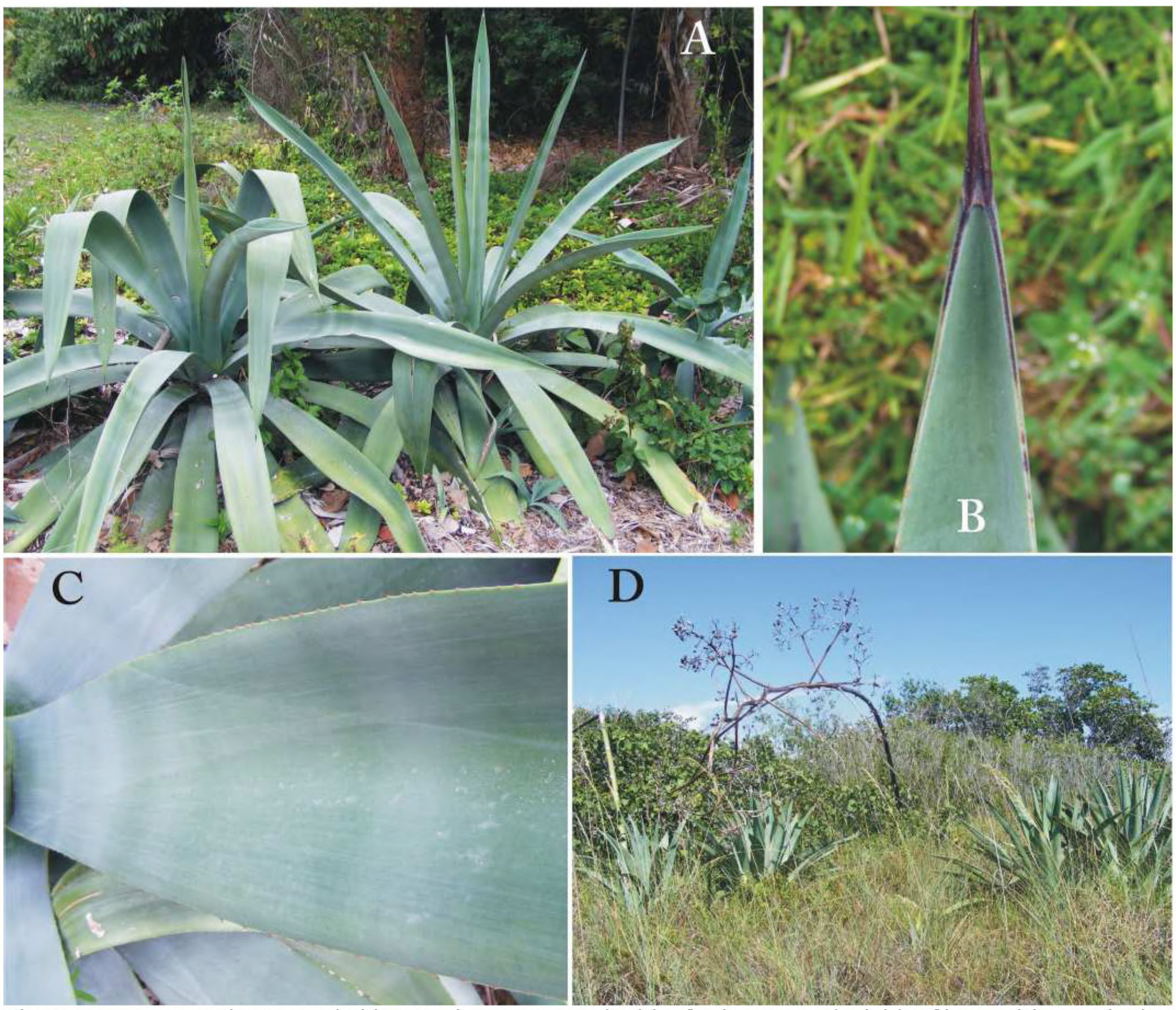

Figure 7. *Agave weberi*. A – habit; B – decurrent terminal leaf spine; C – adaxial leaf base with marginal prickles; D – near toppled inflorescence with fruits. A,C – Sarasota Co., Florida (*Franck 1864*); B – Sarasota Co., Florida; D – Charlotte Co., Florida (*Franck 2648*).

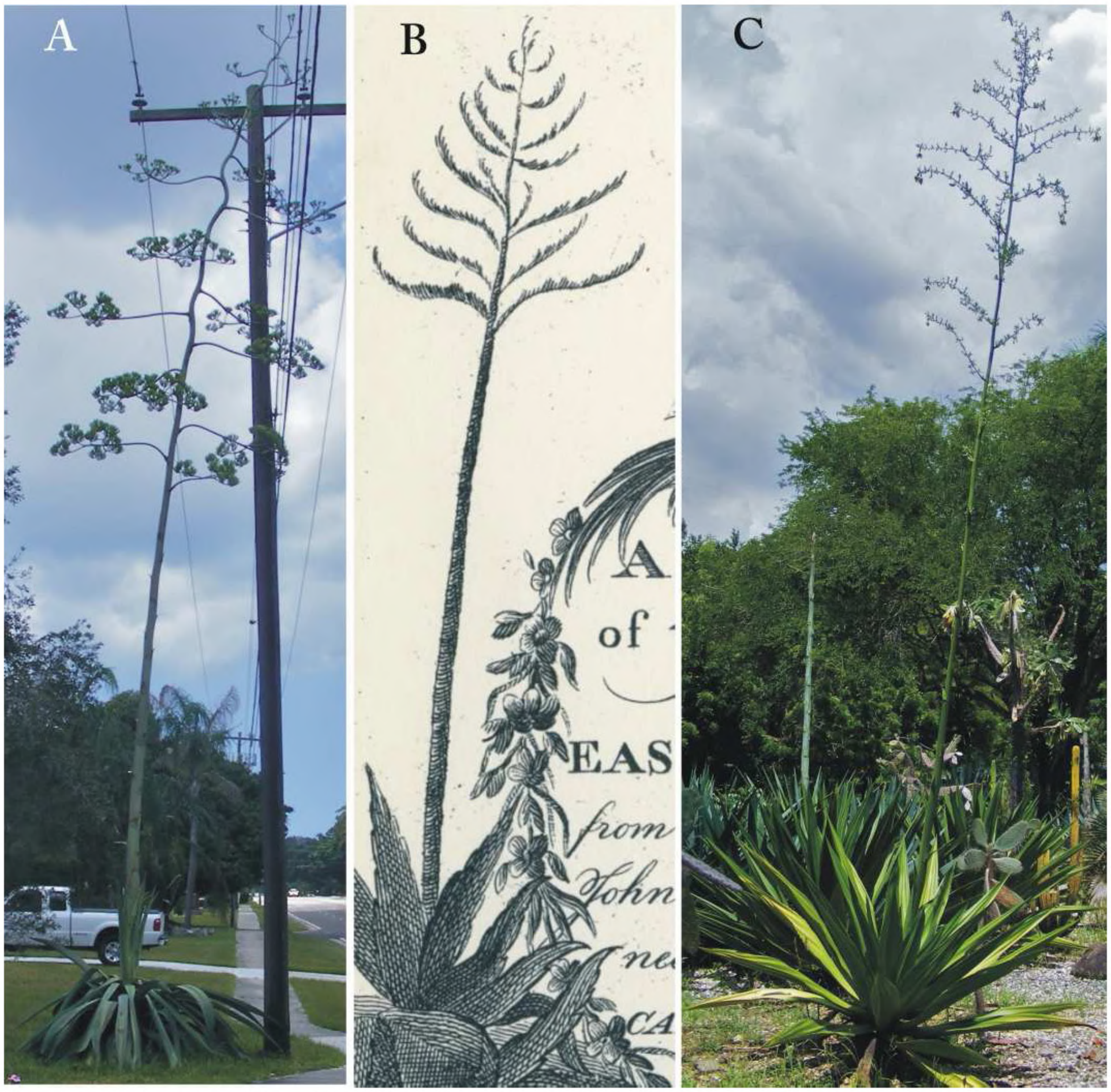

Figure 8. Comparison of three inflorescences of Agavaceae. A – *Agave weberi* in Sarasota Co., Florida; B – unknown Agavaceae, "A Map of the East Coast of Florida" in Bartram (1791); C – *Furcraea* sp. in Santo Domingo, Dominican Republic.

Small (1933) later states that *Agave neglecta* occurs in "pinelands, hammocks, and kitchenmiddens", "is extensively planted for ornament in Florida", and "like *A. decipiens* this century plant thrives on kitchenmiddens and aboriginal village sites." The habitat remarks do not appear to constitute evidence for *A. neglecta* being native because *A. americana* is also stated as being naturalized and found in "hammocks, pinelands" (Small 1933). It is not clear what the habitat remarks were based on as I am not aware of any herbarium specimens or published encounters of *A. neglecta* from Small. His statements may be based on his assertion that the *A. vivipara* mentioned by Bartram (1791) was *A. neglecta* (Small 1933), though there is no way to make a confident identification based on the description "scapes arose erect near 30 ft. high . . . when their seeds are ripe [probably bulbils, not seeds] they vegetate and grow on the branches" (Bartram 1791). The illustration *Map of the Coast of East Florida* by Bartram (1791) depicts an Agavaceae-like plant

which more resembles the paniculate inflorescence of *Furcraea* Vent. than the umbellate flower clusters of *Agave* subg. *Agave* (Fig. 8). Dodge (1893) also mentioned this species (pp. 16, 38) as occurring on the mainland "at Jupiter, at Lake Worth . . . the Perrine Grant, but I do not recall a specimen on any of the Keys." All of these places were sites of *A. sisalana* cultivation as well (Dodge 1893).

I am unaware of any putatively native populations of *Agave weberi* (=*A. neglecta*) in Florida. All herbarium specimens of *A. weberi* appear to have come from cultivation or disturbed coastal areas. Indeed, the lectotype of *A. neglecta* is based on a cultivated specimen which, though never cited by Small, was presumably available to him. With the exception of Gentry's determinations, only the isolectotype at NY was identified as *A. neglecta*. The lectotype (MO) and other isolectotype (ASU), though having the same collector, date, and specimen morphology, were labeled as *A. sp.* or *A. rigida* var. *sisalana*. Another specimen from Ankona, Florida dated 19 Apr 1895 (*McCarty s.n.* (MO)) retains an old handwritten determination as *A. neglecta* and so does a plate drawing from a "leaf sent by Kirk Monroe from Cocoanut [Coconut] Grove, Florida" (MO).

Gentry (1982) allied *Agave weberi* with *A. sisalana*, but these species differ in many respects. Dodge (1893) noted this species (p. 38) to be allied with *A. americana*, with which it seems to share more characters. Caution should be exerted when working with *A. weberi* in Florida as exposure to internal leaf tissue caused severe dermal itching and pustulation to myself.

Specimens examined: **Charlotte Co.**: *A.R. Franck 2648* (USF). **Lee Co.**: *B.F. Hansen & J. Hansen 6130* (USF). **Palm Beach Co.**: *S.W. Woodmansee & T. Couillard 619* (FTG, USF). **St. Lucie Co.**: *J. Beckner 1986* (FLAS). **Sarasota Co.**: *A.R. Franck 1864*, *2260* (FLAS, USF). **Cultivated, Alachua Co.**: *S.B.Davis 1293*, *1633*, *1634*, *1638* (FLAS). **Cultivated, Miami-Dade Co.**: *K. Monroe s.n.* (MO). **Cultivated, St. Lucie Co.**: *C.J. McCarty s.n.* (MO).

CINNAMOMUM Schaeff., Bot. Exped. 74. 1760. **TYPE**: *Cinnamomum zeylanicum* Blume. Fig. 9.

Cinnamomum comprises ~250 species with its center of diversity lying in the Asia-Pacific region (Ravindran et al. 2004; Li et al. 2008). Several species are aromatic and used in food and medicine. The main source of cinnamon in the USA is *C. burmannii* from Indonesia with another alternative source being *C. cassia* (L.) D. Don from China and Vietnam (Ravindran et al. 2004). In contrast with the commercial market of the USA, much of the world distinguishes between different types of cinnamon; for example *C. verum* J. Presl is characterized by different flavors and a higher price (Ravindran et al. 2004).

KEY TO *CINNAMOMUM* IN FLORIDA

1. Buds scaly; leaves pinninerved, often glaucous, with abaxial glands in the basal leaf axils ..... **Cinnamomum camphora**

1. Buds naked or scales indistinct; leaves trinerved (3 nerves arising from base) or triplinerved (lateral nerves arising from midvein above the base), not glaucous, without abaxial glands.

2. Leaves triplinerved, lateral veins conspicuous only on basal half of leaf, evanescent near leaf apex ..... **Cinnamomum burmannii**

2. Leaves trinerved, lateral veins extending to leaf tip, conspicuous at leaf apex ..... **Cinnamomum iners**

Figure 9. *Cinnamomum*. A – *C. iners*, Putrajaya, Malaysia (photo and permission by Mohd Yusoff); B – *C. camphorum*, Sarasota Co., Florida; C – *C. iners*, St. Lucie Co., Florida (*Mejeur & Park s.n.*); D – *C. burmannii*, Sarasota Co., Florida (*Franck 2973*).

Cinnamomum burmannii (Nees & T. Nees) Blume, Bijdr. Fl. Ned. Ind. 11: 569. 1826. *Laurus burmannii* Nees & T. Nees, Cinnam. Disp., fasc. 1: 57. 1823. **LECTOYPE** (designated by Wuu-Kuang 2011): **West Java**. *C. Blume s.n.* (L; isolectotype, L).

This is the most common species of cinnamon spice in the USA (Ravindran et al. 2004). Two sterile shrubs were found in a hydric hammock edge in a county park (Fig. 9). No cultivated specimens were located nearby.

Specimens examined: **Sarasota Co.**: *A.R. Franck 2973* (USF).

Cinnamomum camphora (L.) J. Presl, Prir. Rostlin 2: 47. 1825. *Laurus camphora* L., Sp. Pl. 1: 369. 1753. *Persea camphora* (L.) Spreng., Syst. Veg. 2: 268. 1825. *Camphorina camphora* (L.) Farw., Druggists' Circular 62: 535. 1918. **LECTOTYPE** (designated by Kostermans 1978): *Herb. Linnaeus, 518.7* (LINN).

Cinnamomum camphora is said to have arrived in Florida between 1870–75 (Hood and True 1911). It is more common in the northern part of the state, in some cases dominating secondary forests (Clewell & Tobe 2011). This species is a natural source of camphor, a chemical which also can be synthesized (Ritter 1933).

Specimens examined: **Alachua Co.**: *S.F. Brockington 491* (FLAS), *C. Easley 170* (FLAS), *S. Malone 35* (FLAS), *C. Kabat & S. Kabat 373* (FLAS). **Brevard Co.**: *A.G. Shuey M0281* (USF). **Calhoun Co.**: *T. MacClendon & K. MacClendon 937* (USF), *L.C. Anderson 21532* (FSU). **Citrus Co.**: *C. vanHoek s.n.* (USF), *R.A. Hattawy FC0064*, *FC0109* (USF), *J. Scanlon 48* (FLAS). **Clay Co.**: *J.A. Ferguson 55* (FLAS). **Columbia Co.**: *B. Tan 256* (FLAS). **DeSoto Co.**: *A.G. Shuey 2125* (FLAS, USF), *R.P. Wunderlin et al. 6343* (USF), *A.R. Franck 955* (USF). **Duval Co.**: *R.K. Godfrey 80941* (FSU). **Escambia Co.**: *G. Wilhelm 9440* (USF). **Franklin Co.**: *L.C. Anderson 5469, 6676, 6825, 10566* (FSU). **Gilchrist Co.**: *D.S. Correll & H.B. Correll 51687* (FTG, USF). **Hernando Co.**: *G.R. Cooley et al. 6319* (USF), *D.M. Krofta s.n.* (USF), *L.M. Baltzell 10134* (FLAS). **Highlands Co.**: *S.P. Christman & C.V. Iswaran 1773* (FLAS). **Hillsborough Co.**: *S. Landry & C. Vandaveer s.n.* (USF), *D. Laker s.n.* (USF), *O.K. Lakela 32159* (FTG, USF), *O.K. Lakela & F. Almeda 31342* (USF), *J. Myers 709* (USF), *S. Mortellaro & W.J. Giesy 179* (USF), *A.N. Arcuri 711* (USF). **Lake Co.**: *R.P. Wunderlin et al. 6645* (USF), *B.F. Hansen et al. 6493* (FTG, USF). **Lee Co.**: *R. Workman s.n.* (USF), *R. Clark s.n.* (USF), *W.M. Buswell s.n.* (FTG). **Leon Co.**: *K.E. Blum 2712* (USF), *D.L. Fichtner s.n.* (FSU), *R.K. Godfrey 60691* (FSU), *R.K. Godfrey 79567* (FSU, FTG), *L.C. Anderson 25406* (FSU). **Liberty Co.**: *R.K. Godfrey 79915* (FLAS, FSU, FTG), *S. McDaniel 9012* (FSU), *W. Hess et al. 8482* (FLAS). **Manatee Co.**: *P. Benshoff LM0079* (USF). **Marion Co.**: *A.B. Meyer & A. Townesmith* (USF), *L.M. Baltzell 5668* (FLAS). **Osceola Co.**: *S. Myers 210* (USF). **Orange Co.**: *S. Myers 53* (USF). **Pasco Co.**: *B.F. Hansen & J. Hansen 9947* (FSU, USF), *E.M. Ferguson et al. 734* (USF). **Pinellas Co.**: *B.F. Hansen 12642* (USF), *G. Fleming 3471, 3845* (USF), *G.R. Cooley 979* (USF), *P. Genelle & G. Fleming 2530* (USF), *B.F. Hansen et al. 12308* (USF). **Polk Co.**: *P. Genelle & G. Fleming 2650* (USF), *J.M. Kunzer 2728* (USF). **Putnam Co.**: *S. Myers 335* (USF), *B. Herring & G. Schultz 1595* (FLAS), *A.M. Laessle s.n.* (FLAS). **Santa Rosa Co.**: *G. Wilhelm 9131* (USF). **Sarasota Co.**: *A.E. Perkins s.n.* (USF). **Seminole Co.**: *W.D. Longbotton & D.H. Williams 14451* (USF), *D.H. Williams 2731* (USF). **Sumter Co.**: *R.P. Wunderlin et al. 9809* (USF), *A. Bishop & K. Alvarez DB0062* (USF). **Taylor Co.**: *W.S. Judd et al. 3327* (FLAS, FSU). **Volusia Co.**: *J.M. Kunzer 1323* (USF), *D. Profant 73* (FLAS). **Wakulla Co.**: *L.C. Anderson 23995, 24446* (FSU). **Walton Co.**: *G. Wilhelm 8090* (USF).

Cinnamomum iners Reinw. ex Blume, Bijdr. Fl. Ned. Ind. 570. 1825. **TYPE**: **Java**. *Reinwardt s.n.* (holotype: L; isotype: S).

Cinnamomum iners is a popular landscape tree in the Asia-Pacific region (Wuu-Kuang 2011). The naturalized occurrence in Florida was found on a site called Cloud Grove which had been used by the Coca-Cola Company (Calvert 1969; Bridges & Youtsey 1972; Gould et al. 1987; Pelosi et al. 1987). *Cinnamomum iners* may have been cultivated as a cola flavoring ingredient as some cola flavoring recipes have included *Cinnamomum* (Merory 1968; Pendergast 1993; Glass 2011). The principal volatile component of *C. iners*, linalool (Phutdhawong et al. 2007), has been detected as an odorant in commercial brands of cola beverages (Lorjaroenphon 2012).

Specimens examined: **St. Lucie Co.**: *R. Mejeur & S. Park s.n.* (FLAS, USF), *Peterman s.n.* (USF).

CORYMBIA K.D. Hill & L.A.S. Johnson, Telopea 6: 214. 1995. **TYPE**: *Corymbia gummifera* (Gaertn.) K.D. Hill & L.A.S. Johnson. Figure 10.

Corymbia has recently been segregated from *Eucalpytus* as a distinct genus (Hill & Johnson 1995; Grattapaglia et al. 2012). *Corymbia* and *Angophora* Cav. appear to share the synapomorphy of bristle glands with four cap cells and micropapillae (Wilson et al. 2001). One species of *Corymbia* has been recorded as naturalized in Florida.

Corymbia torelliana (F. Muell.) K. D. Hill & L. A. S. Johnson, Telopea 6: 385. 1995. *Eucalyptus torelliana* F. Muell., Fragm. 10: 106. 1877. **TYPE**: **AUSTRALIA. Queensland**. Trinity Bay, 1877, *Fitzalan s.n.* (holotype: MEL).

Corymbia torelliana is a common landscape tree in Florida, partly due to its attractive smooth trunk (Fig. 10). The mature leaves and twigs of this species are hirsute and easily distinguished from the other naturalized species of *Eucalyptus*, which have glabrous mature leaves and twigs.

Specimens examined: **Lee Co.**: *J.R. Abbott 23683* (FLAS), *J.M. Kunzer & M. Hamilton* 2272 (USF). **Palm Beach Co.**: *R. Miller s.n.* (FLAS, USF).

Figure 10. Barks of three eucalypts. A – *Corymbia torelliana*, Sarasota Co., Florida; B – *Eucalyptus camaldulensis* subsp. *acuta*, Charlotte Co., Florida (*Franck 1502*); C – *Eucalyptus robusta*, Sarasota Co., Florida.

EUCALYPTUS L'Hér., Sert. Angl. 18. 1789. **TYPE**: *Eucalyptus obliqua* L'Hér. Figure 10.

Eucalyptus s.s. comprises ~600 spp. (Brooker 2000), most native to Australia. Three species of *Eucalyptus* subg. *Symphyomyrtus* Schauer have been recorded as naturalized in Florida. A few sterile specimens of *Eucalyptus* at FTG collected by Buswell are not included because they cannot here be reliably identified and may be from cultivation. Confidently assigning specimens to species and infraspecific taxa may rely on several characters such as juvenile and adult leaves, bark, flower bud, and fruit.

The earliest record of *Eucalyptus* in Florida is from 1878 on Merritt Island (Zon & Briscoe 1911). The first industrial scale planting is said to have occurred in 1972 (Geary et al. 1983). The eucalypts have been utilized for energywood, mulchwood, phytoremediation, and windbreak in Florida (Rockwood & Peter 1997). Eucalypts are extensively planted in California and 18 species have been recorded as naturalized there (Ritter & Yost 2009).

KEY TO *EUCALYPTUS* IN FLORIDA

1. Bark rough throughout; length from base of pedicel to fruit rim > 1cm ..... **Eucalyptus robusta**
1. Bark shedding, smooth on upper trunk and branches; length from base of pedicel to fruit rim < 1 cm

2. Fruit hemispheric; peduncle < 2 mm wide ..... **Eucalyptus camaldulensis**
2. Fruit obconic; peduncle > 2 mm wide ..... **Eucalyptus grandis**

Eucalyptus camaldulensis Dehnh. subsp. ***acuta*** Brooker & M. W. McDonald, Austral. Syst. Bot. 22: 270. 2009. **TYPE: AUSTRALIA. Queensland**. Maranoa River at Forest Vale, ca. 63 km N of Mitchell on road to Injune, 27 Jul 2003, *M.W. McDonald & P.A. Butcher 3182* (holotype: CANB; isotypes: BRI, MEL).

Eucalyptus camaldulensis was allegedly the most widely planted eucalypt in Florida (Zon & Brucoe 1911, as *E. rostrata* Cav.). Mature flower buds are needed for accurate identification to subspecies (McDonald et al. 2009).

Specimens examined: **Charlotte Co.**: *A.R. Franck 1262, 1502* (FLAS, USF), *A.R. Franck 1345, 1412* (USF).

Eucalyptus grandis W. Hill, Cat. Nat. Indust. Prod. Queensland 25. 1862. **TYPE: AUSTRALIA. Queensland**. Queensland woods, *W. Hill 74* (holotype: K).

Eucalyptus grandis is commonly grown in south-central Florida for mulch and it occasionally naturalizes. This species is often confused with and difficult to distinguish from *E. saligna* Sm. (Skolmen 1965; DERM 2006). The authorship and type status follows Bean (2002).

Specimens examined: **Glades Co.**: *B.F. Hansen et al. 11326* (FLAS, USF), *K. Kuhlman s.n.* (USF), *A.R. Franck 1674* (USF). **Hardee Co.**: *M. Scheller s.n.* (FLAS). **Hendry Co.**: *A.R. Franck 1752* (USF), *G. Nelson 1101* (FSU). **Palm Beach Co.**: *R. Miller s.n.* (USF).

Eucalyptus robusta Sm., Spec. Bot. New Holland 39. 1795. **TYPE: AUSTRALIA. New South Wales**. Port Jackson, 1793, *J. White s.n.* (holotype: LINN; isotypes: BM, G, K).

Eucalyptus robusta was alleged to be the second-most common eucalypt in Florida in the 1900s (Zon & Briscoe 1911). This species can be quickly separated from other species by its rough bark over the entire trunk (Fig. 10).

Specimens examined: **Brevard Co.**: *B.F. Hansen 12892* (USF), *T. MacClendon et al. 225* (USF). **Charlotte Co.**: *A.R. Franck 2866* (USF). **Lee Co.**: *J.M. Kunzer 2168* (USF). **Martin Co.**: *M. Bodle s.n.* (USF). **Pinellas Co.**: *R. Chicone 686* (USF). **St. Lucie Co.**: *K.A. Bradley et al. 1221* (USF), *C. Lippincott & D. Garvue s.n.* (FTG).

PANDANUS Parkinson, J. Voy. South Seas 76. 1773. **TYPE**: *Pandanus tectorius* Parkinson.

Pandanus includes ~600 species native to the paleotropics (Sun & DeFilipps 2010). *Pandanus tectorius* is commonly grown in south Florida as an ornamental.

Pandanus odorifer (Forssk.) Kuntze, Revis. Gen. Pl. 2: 737. 1891. *Keura odorifera* Forssk., Fl. Aegypt.-Arab. 172. 1775. **TYPE**: not indicated.

A sterile specimen of *Pandanus odorifer* was collected in the Florida Keys (Big Pine Key) on a roadside in a marl coastal hammock (Fig. 11). There was no evidence of cultivation or any nearby cultivated specimens. Species of *Pandanus* are dioecious and the collection from the Florida Keys probably only represents a waif occurrence. *Pandanus odorifer* can recognized by its conspicuous marginal whitish prickles (St. John 1980; Stone 1994, as *P. odoratissimus*).

Pandanus odorifer has been regarded as synonymous with the widely used but illegitimate *Pandanus odoratissimus* L.f. (Nicolson et al. 1988; TROPICOS 2012). When Kuntze made the combination for *P. odorifer* the name *P. odoratissimus* was cited in synonymy. The name *Pandanus odoratissimus* L.f. has been in widespread usage (e.g. St. John 1980; Stone 1994), though it appears to be illegitimate because *Athrodactylis spinosa* (Burm.f.) J.R.Forst. & G.Forst was cited in synonymy, which was superfluous for the earlier valid name *Bromelia sylvestris* Burm.f. The protologue of *Pandanus odoratissimus* L.f. also cites the pre-Linnaean description of *Bromelia sylvestris* Burm.f., which was validly published in 1768.

Specimens examined: **Monroe Co**.: *A.R. Franck 2518* (USF).

Figure 11. *Pandanus odorifer*, Monroe Co., Florida (*Franck 2518*). A – habit, B – shoot, C – white marginal spines.

SANSEVIERIA Thunb., Prodr. Pl. Cap. 1: 65. 1794. **TYPE**: *Sansevieria thyrsiflora* Thunb. Figure 12.

The genus *Sansevieria* is native to Africa and India and contains ~60 species (Brown 1915). Two species have been recorded as naturalized in Florida. Only on specimens of *S. trifasciata* have I seen fruits in Florida.

KEY TO *SANSEVIERIA* IN FLORIDA

1. Leaf margin orange-red ..... **Sansevieria hyacinthoides**
1. Leaf margin green, yellow, or white ..... **Sansevieria trifasciata**

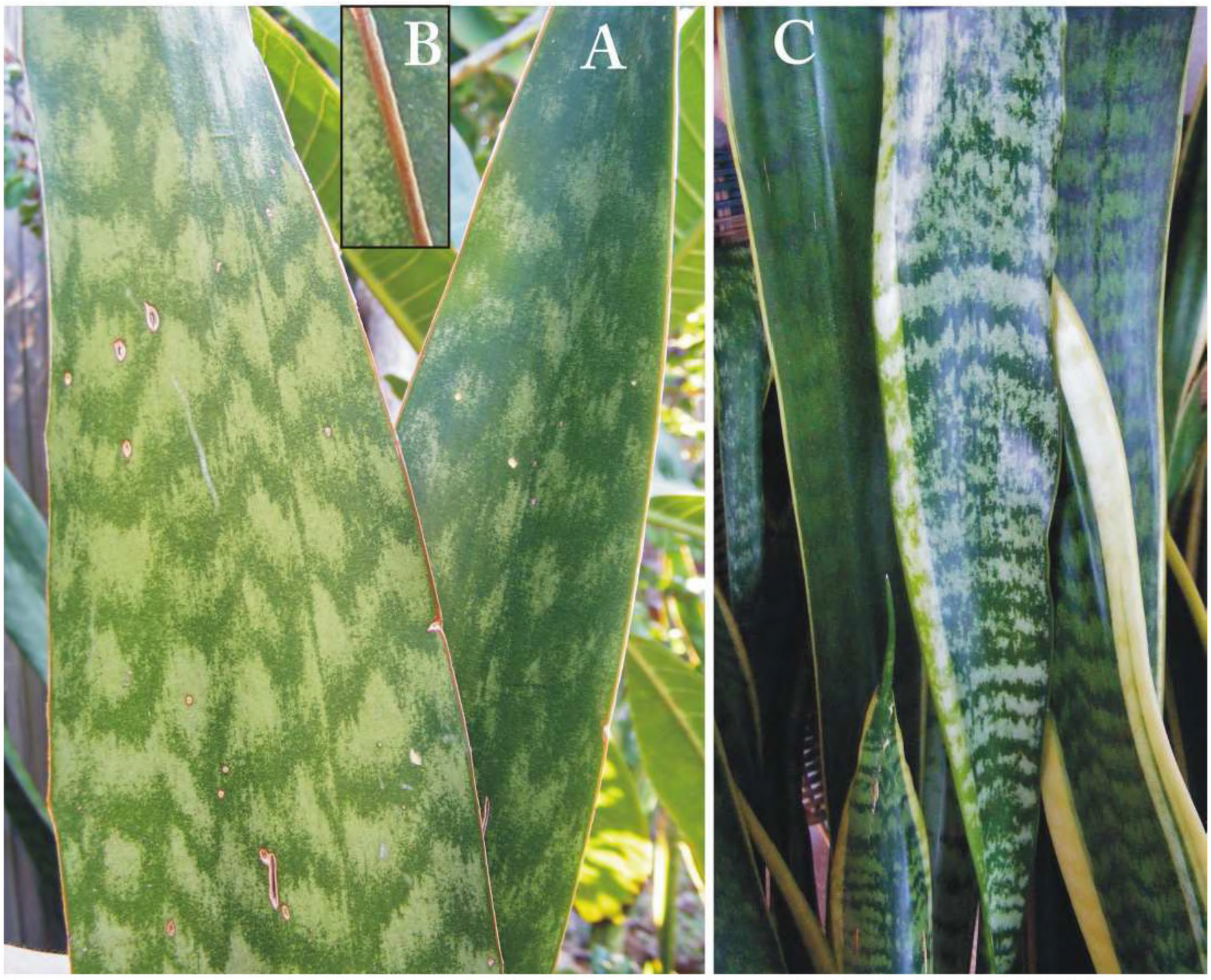

Figure 12. *Sansevieria.* A, C – leaves; B – leaf margin. A, B – *S. hyacinthoides*, Sarasota Co., Florida; C – *S. trifasciata*, Sarasota Co., Florida.

Sansevieria hyacinthoides (L.) Druce, Bot. Exch. Club Soc. Brit. Isles 3: 423. 1914. *Aloe hyacinthoides* L., Sp. Pl. 1: 321. 1753. *Cordyline hyacinthoides* (L.) W. Wight, Contr. U.S. Natl. Herb. 9: 249. 1904. **LECTOTYPE** (designated by Stearn 1961): **GUINEA.** C. Commelin, Praeludia Bot. 84, t. 33. 1703.

Though *Sansevieria hyacinthoides* appears to spread vegetatively only, it is widespread in central and south peninsular Florida. It can form dense colonies from its thick, bright orange rhizomes. This species was depicted by Dodge in 1893 (as *S. guineensis* (L.) Willd.) as a potential fiber crop and may have been introduced to Florida much earlier than 1893 (Henley 1982). The earliest specimen I have seen from Florida was collected by Britton in 1903 from "waste places" in Key West (NY). I have not seen any herbarium specimens with fruits in Florida.

Specimens examined: **Brevard Co.***: A.G. Shuey & J.E. Poppleton s.n.* (USF), *O.K. Lakela 28680* (USF), *R. Burckhalter 2507* (LSU), *L.M. Baltzell 10612* (FLAS), *D.B. Ward & R.B. Huck*

10701 (FLAS), *B. Herring & L. Chafin 1211* (FLAS). **Broward Co.**: *B.F. Hansen & R.P. Sauleda 10565* (USF), *G. Gann & K.A. Bradley 155* (FTG), *B. Schuster s.n.* (FLAS). **Charlotte Co.**: *A.R. Franck & B. Upcavage 1858* (USF). **Collier Co.**: *B.F. Hansen et al. 11833* (FTG, USF), *O.K. Lakela 31815* (USF). **Glades Co.**: *A.R. Franck 1661* (USF). **Highlands Co.**: *D.W. Hall & W.S. Judd 1381* (FLAS, USF). **Hillsborough Co.**: *B.F. Hansen 12915* (USF). **Indian River Co.**: *J.R. Abbott & B.S. Carlsward 24906* (FLAS), *W.G. D'Arcy 3012* (FLAS). **Lee Co.**: *S. Todd 77* (USF), *D.B. Ward & S.S. Ward 2842* (FLAS, FSU, USF), *B.F. Hansen 4998* (USF), *A.R. Franck & S.W. Braem 2608* (USF), *W.C. Brumbach 8162* (NY), *J. Beckner 1753* (FLAS). **Martin Co.**: *D.S. Correll & J. Popenoe 47999* (FTG). **Miami-Dade Co.**: *J.K. Small & G.K. Small 4835* (NY), *R.K. Godfrey 58095* (FSU). **Monroe Co.**: *A.R. Franck 2504* (USF), *N.L. Britton s.n.* (NY), *F.C. Craighead s.n.* (FTG), *S.J. Lynch & S.A.L. Party s.n.* (FLAS). **Palm Beach Co.**: *P.M. Cassen 273* (FLAS), *G. Gann & K.A. Bradley 1075* (FTG), *O. Winchester s.n.* (FLAS). **Sarasota Co.**: *B.K. Holst et al. 6339* (USF), *A.R. Franck 1745, 1870* (USF). **St. Lucie Co.**: *J. Beckner 1971* (FLAS).

Sansevieria trifasciata Prain, Bengal Pl. 2: 1054. 1903. **TYPE**: unknown.

Sansevieria trifasciata is an extremely popular ornamental that tolerates low light and low humidity indoors, is drought resistant, and can be easily propagated from leaf cuttings. This species is less frequently naturalized in Florida and does not appear to spread as vigorously as *S. hyacinthoides*.

Specimens examined: **Collier Co.**: *O.K. Lakela & D. Laker 29071* (USF). **DeSoto Co.**: *A.R. Franck 1734* (USF). **Highlands Co.**: *J.B. McFarlin 9252* (FLAS). **Hillsborough Co.**: *S.W. Braem EK0038* (USF). **Lee Co.**: *S.W. Braem GI0126* (USF). **Martin Co.**: *R.O. Woodbury & R. Roberts s.n.* (USF). **Miami-Dade Co.**: *F.C. Craighead s.n.* (USF). **Sarasota Co.**: *A.R. Franck 1871* (USF).

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LITERATURE CITED

Bartram, W. 1791. Travels through North and South Carolina, Georgia, East and West Florida [. . .] with Observation on the Manners of the Indians. James & Johnson, Philadelphia.

Bean, T. 2002. A note on the authorship of *Eucalyptus grandis*. Newslett. Austral. Syst. Bot. Soc. 112: 2.

Berger, A. 1915. Die Agaven. Verlag von Gustav Fischer, Jena, Germany.

Bridges, G.D. and C.O. Youtsey. 1972. Natural Tristeza infection of *Citrus* species, relatives and hybrids at one Florida location from 1961–1971. Proc. Florida State Hort. Soc. 85: 44–47.

Brooker, M.I.H. 2000. A new classification of the genus *Eucalyptus* L'Hér. (Myrtaceae). Austral. Syst. Bot. 13: 79–148

Brown, N.E. 1915. *Sansevieria* – A monograph of all known species. Bull. Misc. Inform. Kew. 1915: 185–261.

Callen, E.O. 1965. Food habits of some pre-Columbian Mexican Indians. Econ. Bot. 19: 335–343.

Calvert, D.V. 1969. Effects of rate and frequency of fertilizer applications on growth, yield and quality factors of young 'Valencia' orange trees. Proc. Florida State Hort. Soc. 82: 1–7.

Clewell, A. and J.D. Tobe. 2011. *Cinnamomum-Ardisia* forest in northern Florida. Castanea 76: 245-254.

Colunga-GarcíaMarín, P. and F. May-Pat. 1993. *Agave* studies in Yucatan, Mexico. I. Past and present germplasm diversity and uses. Econ. Bot. 47: 312–327.

Colunga-GarcíaMarín, P. and F. May-Pat. 1997. Morphological variation of henequén (*Agave fourcroydes*, Agavaceae) germplasm and its wild ancestor (*A. angustifolia*) under uniform growth conditions: diversity and domestication. Amer. J. Bot. 84: 1449–1465.

Colunga-GarcíaMarín, P., E. Estrada-Loera, and F. May-Pat. 1996. Patterns of morphological variation, diversity, and domestication of wild and cultivated populations of *Agave* in Yucatan, Mexico. Amer. J. Bot. 83: 1069–1082.

Colunga-GarcíaMarín, P., J. Coello-Coello, L.E. Eguiarte, and D. Piñero. 1999. Isozymatic variation and phylogenetic relationships between henequén (*Agave fourcroydes*) and its wild ancestor *A. angustifolia* (Agavaceae). Amer. J. Bot. 86: 115–123.

DERM (Department of Environment and Resource Management). 2006. Key to Eucalypts of Greater Brisbane (ed. 3). Queensland Herbarium, Brisbane Botanic Gardens.

Dewey, L.H. 1929. A new variety of henequen without prickles. J. Wash. Acad. Sci. 19: 415–416.

Dewey, L.H. 1931. Sisal and henequen, plants yielding fiber for binder twine. Circular No. 186, United States Department of Agriculture, Washington, D.C.

Dodge, C.R. 1893. A Report on the Leaf Fibers of the United States. Government Printing Office, Washington, D.C.

Doughty, L.R. 1936. Chromosome behaviour in relation to genetics of *Agave*. I. Seven species of fibre *Agave*. J. Genet. 33:197–205.

Drummond, J.R. and D. Prain. 1906 [1907]. Notes on *Agave* and *Furcraea* in India. Agric. Ledger 7: 127–321.

García-Mendoza, A. and F. Chiang. 2003. The confusion of *Agave vivipara* L. and *A. angustifolia* Haw., two distinct taxa. Brittonia 55: 82–87.

Geary, T.F., G.F. Meskimen, and E.C. Franklin. 1983. Growing eucalypts in Florida for industrial wood production. USDA, Forest Service, Southeastern Forest Experiment Station, General Techinical Report SE-23. Asheville, NC.

Gentry, H.S. 1982. Agaves of Continental North America. Univ. of Arizona Press, Tucson.

Glass, I. 2011. This American Life, episode 427: Original recipe transcript. Chicago Public Media. <www.thisamericanlife.org>

Gould, A.B., R.S. Ferriss, M. Cohen, R.R. Pelosia, and R.M. Sonoda. 1987. Relationship of citrus blight to tree size of 'Valencia' orange on rough lemon rootstock. Proc. Florida State Hort. Soc. 100: 68–71.

Grattapaglia, D., R.E. Vaillancourt, M. Shepherd, B.R. Thumma, W. Foley, C. Kühlheim, B.M. Potts, and A.A. Myburg. 2012. Progress in Myrtaceae genetics and genomics: *Eucalyptus* as the pivotal genus. Tree Genet. Genomes 8: 463–508.

Guillot Ortiz, D. and P. van der Meer. 2006. Un nuevo taxón alóctono potencialmente invasor para la flora Ibérica, *Agave sisalana* var. *armata* Trel. Stud. Bot. 25: 139–141.

Henley, R.W. 1982. *Sansevieria* in Florida—Past and present. Proc. Florida State Hort. Soc. 95: 295–298.

Hill, K.D. and L.A.S. Johnson. 1995. Systematic studies in the *Eucalypts* 7. A revision of the bloodwoods, genus *Corymbia*. Telopea 6: 185–504.

Hood, S.C. and R.H. True. 1911. Camphor cultivation in the United States. Yearbook of the USDA 1910: 449–460.

Howard, R.A. 1979. Flora of the Lesser Antilles, Vol. 3. Harvard University, Massachusetts.

Hummelinck, PW. 1938. Notes on *Agave* in the Netherlands West Indies and north Venezuela. Recueil Trav. Bot. Néerl. 35: 14–28.

Kostermans, A.J.G.H. 1978. Lauraceae. In: E. Nasir and S.I. Ali (eds.) Flora of West Pakistan. Fakhri Press, Karachi.

Li, X., J. Li, and H. van der Werff. 2008. *Cinnamomum*. In: Z.Y. Wu, P.H. Raven, and D.Y. Hong (eds.). 1994+. Flora of China. Science Press, Beijing and Missouri Botanical Garden Press, St. Louis. Vol. 7.

Lock, G.W. 1962. Sisal: Twenty-five years' sisal research. Spottiswoode, Ballantyne, and Co. Ltd., London & Colchester, England.

Lorjaroenphon, Y. 2012. Identification and characterization of potent odorants responsible for typical and storage-induced flavors fo cola-flavored carbonated beverages. Ph.D. dissertation. Univ. of Illinois at Urbana-Champaign.

McDonald, M.W., M.I.H. Brooker, and P.A. Butcher. 2009. A taxonomic revision of *Eucalyptus camaldulensis* (Myrtaceae). Austral. Syst. Bot. 22: 257–285.

Merory, J. 1968. Food Flavorings: Composition, Manufacture, and Use. The AVI Publishing Company, Inc., Westport, Connecticut.

Mulford, A.I. 1896. A study of the agaves of the United States. Rep. (Annual) Missouri Bot. Gard. 1896: 47–100.

Nicolson, D.H., C.R. Suresh, and K.S. Manilal. 1988. An Interpretation of Van Rheede's Hortus Malabaricus. Koeltz Scientific Books, Königstein, Germany.

Pelosi, R.R., A.B. Gould, M. Cohen, and R.M. Sonoda. 1987. Seed and budwood source effects on the incidence of citrus blight among 14-year-old 'Valencia' orange trees. Proc. Florida State Hort. Soc. 100: 66–68.

Pendergast, M. 1993. For God, Country and Coca-Cola. Charles Scribner's Sons, New York.

Perrine, H. 1838. Tropical Plants. Rep. No. 564, 25th Congress, 2nd session, House of Representatives.

Phutdhawong, W., R. Kawaree, S. Sanjaiya, W. Sengpracha, and D. Buddhasukh. 2007. Microwave-assisted isolation of essential oil of *Cinnamomum iners* Reinw. ex Bl.: Comparison with conventional hydrodistillation. Molecules 12: 868–877.

Pinkerton, A. and K.R. Bock. 1969. Parallel streak of sisal (*Agave sisalana*) in Kenya. Exp. Agric. 5: 9–16.

Piven, N.M., F.A. Barredo-Pool, I.C. Broges-Argáez, M.A. Herrer-Alamillo, A. Mayo-Mosqueda, J.L. Herrera-Herrera, and M.L. Robert. 2001. Reproductive biology of henequen (*Agave fourcroydes*) and its wild ancestor *Agve angustifolia* (Agavaceae). i. Gametophyte development. Amer. J. Bot. 88: 1966–1976.

Ravindran, P.N., K. Nirmal Babu, and M. Shylaja (eds.). 2004. Cinnamon and Cassia: The genus *Cinnamomum*. CRC Press, Medicinal and Aromatic Plants — Industrial Profiles, Boca Raton, Florida.

Reveal, J.L and W.C. Hodgson. 2002. *Agave*. In: Flora of North America Editorial Committee, eds. 1993+. Flora of North America North of Mexico. 16+ vols. New York and Oxford. Vol. 26.

Ritter, J.J. 1933. A new camphor synthesis. J. Amer. Chem. Soc. 55: 3322–3326.

Ritter, M. and J. Yost. 2009. Diversity, reproduction, and potential for invasiveness of *Eucalyptus* in California. Madroño 56: 155–167.

Robert, M.L., K. Yoong Lim, L. Hanson, F. Sanchez-Teyer, M.D. Bennett, A.R. Leitch, and I.J. Leitch. 2008. Wild and agronomically important *Agave* species (Asparagaceae) show proportional increases in chromosome number, genome size, and genetic markers with increasing ploidy. Bot. J. Linn. Soc. 158: 215–222.

Robinson, T.R. 1942. Henry Perrine, pioneer horticulturist of Florida. Tequesta 2:16–24.

Rockwood, D.L. and G.F. Peter. 2011 [1997]. *Eucalyptus* and *Corymbia* species for pulpwood, mulchwood, energywood, windbreaks, and/or phytoremediation. Univ. of Florida, IFAS Extension, Circular 1194.

Rogers, G.K. 2000. A taxonomic revision of the genus *Agave* (Agavaceae) in the Lesser Antilles, with an ethnobotanical hypothesis. Brittonia 52: 218–233.

Salinas, M.R., T. Ogura, and L. Soffchi. 2001. Irritant contact dermatitis caused by needle-like calcium oxalate crystals, raphides, in *Agave tequilana* among workers in tequila distilleries and agave plantations. Contact Dermatitis 44: 94—96.

Skolmen, R.G. 1965. Saligna eucalyptus. In: R.M. Burns and B.H. Honkal (technical coordinators), Silvics of North America, Vol. 2. Agriculture Handbook 654. United States Department of Agriculture and U.S. Forest Service, Washington D.C.

Small, J.K. 1903. Flora of the Southeastern United States. The New Era Printing Company, Lancaster, Pennsylvania.
Small, J.K. 1933. Manual of the Southeastern Flora. Univ. of North Carolina Press, Chapel Hill.
St. John, H. 1980. Revision of the genus *Pandanus* Stickman. Part 42 *Pandanus tectorius* Parkins. ex Z and *Pandanus odoratissimus* L.f. Pacific Science 33: 395–401.
Stearn, W.T. 1961. Botanical gardens and botanical literature in the eighteenth century. In: Catalogue of Botanical Books in the Collection of Rachel McMasters Miller Hunt, Vol. 2, pt. 1. Hunt Botanical Library, Pittsburgh.
Stone, B.C. 1994. A note on *Pandanus* (Pandanaceae) in Taiwan. Bot. Bull. Acad. Sin. 35: 129–132.
Sun, K. and R.A. DeFilipps. 2010. Pandanaceae. In: Z.Y. Wu, P.H. Raven, and D.Y. Hong (eds.). 1994+. Flora of China. Science Press, Beijing and Missouri Botanical Garden Press, St. Louis. Vol. 23.
Szarek, S.R., B. Driscoll, C. Shohet, and S. Priebe. 1996. Bulbil production in *Agave* (Agavaceae) and related genera. Southwestern Naturalist 41: 465–469.
Trelease, W. 1913. *Agave* in the West Indies. Mem. Natl. Acad. Sci. 11: 1–299.
Trelease, W. and W. Nowell. 1933. *Agave amaniensis*: A new form of fibre-producing Agave from Amani. Bull. Misc. Inform. Kew 10: 465—467.
TROPICOS. 2012. *Pandanus odorifer* (Forssk.) Kuntze. Missouri Botanical Garden. <www.tropicos.org/Name/100238551> Accessed 15 Nov 2012.
Vidal, R. 1925. Breeding work with henequen and sisal. J. Heredity 13: 9–12.
Wilson, P.G., M.M. O'Brien, P.A. Gadek, and C.J. Quinn. 2001. Myrtaceae revisited: A reassessment of infrafamilial groups. Amer. J. Bot. 88: 2013–2025.
Wuu-Kuang, S. 2011. Taxonomic revision of *Cinnamomum* (Lauraceae) in Borneo. Blumea 56: 241–264.
Zon, R. and J.M. Briscoe. 1911. Eucalypts in Florida. U.S.D.A. Forest Service Bulletin 87. Government Printing Office, Washington.
Zona, S. 2001. *Agave decipiens*, endemic to Florida. Haseltonia 8: 24–29.